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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/829,223	04/22/2004	Jae Yeong Park	0630-2007PUS1	5947
2292	7590	12/06/2005	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			DOUGHERTY, THOMAS M	
			ART UNIT	PAPER NUMBER
			2834	
DATE MAILED: 12/06/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/829,223	Applicant(s) PARK, JAE YEONG	
	Examiner Thomas M. Dougherty	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-19 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6 is/are rejected.
- 7) ☒ Claim(s) 5 and 7-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Song et al. (US 2004/0155736). Song et al. show (figs. 2, 3, 8) a low voltage micro switch comprising: a substrate (1) having an actuating space formed by etching at a certain area (11) therein; an actuating unit having a piezoelectric material (see cl. 14) extended in a cantilever beam shape (12) from a portion of the substrate (1) to the actuating space of the substrate (11) and a bias electrode (3), a conductive signal line (9a, 9b) extendedly formed at a certain interval from one side of the substrate and having a disconnected portion; a supporting unit (2) connected to the actuating unit (3), positioned in the actuating space (11), and moving according to actuation of the actuating unit; a switching unit (electrodes 13a, 13b and 12) formed at the supporting unit and connecting or disconnecting the disconnected portion of the conductive signal line (9a, 9b) according to movement of the supporting unit; and one or more ground units (13a or 13b) formed at the substrate. Note that for the piezoelectric element to bend, one part gets a signal voltage and another gets a ground.

Art Unit: 2834

The actuating space has a groove (11) formed with a certain depth in a portion of the substrate.

The actuating space (11) is formed penetratingly in a portion (11) of the substrate (1).

The actuating unit has one cantilever portion (see 12 in figs. 2 and 3) having a certain length, and the supporting unit includes a plate portion (2) forming the switching unit and a connection portion connecting the plate portion (2) and the cantilever portion. Note that the component 3 is on the cantilever portion therefore there is a connection portion between the two.

Allowable Subject Matter

Claims 11-19 are allowed.

Claims 5 and 7-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art does not show two or four cantilever portions in a micro switch nor does it show two or three connection portions. The prior art does not show a capacitor unit on a connection electrode which contacts or separates from a conductive signal line and which is on a piezoelectric material that extends in a cantilever fashion over an actuating space in a substrate, wherein the contact occurs above the capacitor.

Direct inquiry to Examiner Dougherty at (571) 272-2022.


tmd

Application/Control Number: 10/829,223

Page 4

Art Unit: 2834

December 5, 2005

Thomas M. Dougherty
TOM DOUGHERTY
PRIMARY EXAMINER